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09/900,160

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Kia Silverbrook

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SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER

ALANKO, ANITA KAREN

ART UNIT

PAPER NUMBER

1765

MAIL DATE

DELIVERY MODE

08/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/900,160

Applicant(s)

SILVERBROOK, KIA

Examiner

Anita K. Alanko

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/112,778.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20, 2007 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear as to whether there are two different actuators, or whether one actuator serves as both an ejection and a refill actuator.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albarda et al (US 5,029,805) in view of Waggener et al (US 4,733,823).

Albarda discloses a method comprising:

providing a wafer substrate 1 with nozzle chambers 7;

depositing and etching a plurality of layers 3,5,9,10,13, of actuator layers on the wafer substrate 1, one of the plurality of actuator layers being a layer of actuator material, the layer of actuator material being etched (to form patterns 5, 9, 11, 12, 13, 20, 23) to define an ejection actuator and a refill actuator for each nozzle chamber (Fig.1-5 all show different actuating methods, and each have an actuator that defines both an ejection actuator and a refill actuator for each nozzle chamber, inherently since no separate refill mechanism is disclosed).

Albarda fails to disclose how the nozzle chambers in silicon (col.2, lines 29-34) are formed.

Waggener discloses a method for forming nozzle chambers comprising:

depositing a layer of etch stop material 17 on a front side of a wafer substrate 10 (Fig.4, vol.3, lines 58-61);

etching the substrate up to the etch stop material to define a plurality of nozzle chambers 11 (Fig.1) and so that portions of the etch stop layer define roof walls for respective nozzle chambers (Fig.6); and

etching each said portion of the etch stop layer (the doped layer 17) to form at least one ink ejection port 13 in each said portion (Fig.8).

The advantage of using the method of Waggener is that it uses standard semiconductor wafers without the need for mechanical or chemical polishing of the two major surfaces of the

wafer. It would have been obvious to one with ordinary skill in the art to form the nozzle chambers in the method of Albarta by using the method of Waggener because Waggener teaches that it is a useful method for forming nozzle chambers and nozzle openings without the need for mechanical or chemical polishing of the two major surfaces of the wafer, and because it uses known semiconductor techniques that are well known to those skilled in the art, and therefore able to be integrated into silicon processing methods such as that of Albarta.

As to claim 2, Albarta discloses to include drive circuitry on a back side of the wafer substrate (col.5, lines 23-27).

As to claim 3, the method of Albarta includes each actuator connected to drive circuitry (since there is only one actuator that performs both ejection and refill).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,258,285 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are fully encompassed by '285.

Response to Amendment

Part of the 35 USC 112 rejection is withdrawn in view of the claim amendment citing that the layers are on the wafer substrate. However, taken in combination with applicant's remarks, it is still unclear whether there are two different structures for the actuators, or whether one layer can serve as both the ejection actuator and the refill actuator.

Claims 1-3 remain rejected under 35 U.S.C. 103(a) as being unpatentable over newly cited Albarda et al (US 5,029,805) in view of Waggener et al (US 4,733,823). Albarda discloses depositing and etching actuator material.

Claims 1-3 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,258,285 B1.

Response to Arguments

Applicant's arguments filed 5/20/07 have been fully considered but they are not persuasive.

As to the 35 USC 112 rejection, applicant argues that the layer of actuator material forms both the ejection actuator and refill actuator. In response, perhaps confusion lies in the fact that the claim does not distinguish between having the same structure can serve as both an ejection

actuator and refill actuator, or, as in the instant specification, having the actuators comprise different structures 28, 30.

As to the prior art rejection, applicant argues that Albarda does not disclose a separate refill mechanism. However, this argument is not commensurate in scope with the claim language, as discussed above with respect to the 35 USC 112 rejection. Note also that claiming that “one” layer is actuator material is not limiting since the claim has open “comprising” language. “Consisting of” language would limit the actuator structure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 2:30 pm (Wed until 11:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anita K Alanko/
Primary Examiner
Art Unit 1765